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Ramotowski

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(54) **METHOD FOR INCREASING FRACTURE TOUGHNESS AND REDUCING BRITTLENESS OF SEMI-CRYSTALLINE POLYMER**

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(58) **Field of Search** 438/3, 255, 300, 438/758

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(57) **ABSTRACT**

A manufacturing process is provided to increase fracture toughness and reduce brittleness for a semi-crystalline polymer material. A material such as poly(vinylidene fluoride-trifluorethylene) or p(VDF-TrFE) is placed in an inert oxygen-free atmosphere and heated to a temperature that is greater than room temperature but below the melting temperature of the material. The material is then irradiated with beta particles until a desired level of fracture toughness is achieved where fracture toughness is a function of the radiation dose.

17 Claims, 2 Drawing Sheets

